Ammonium chloride

31107-6X500G

Version 1.3 Revision Date 31.08.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	:	Ammonium chloride
SDS-number	:	000000020685
Type of product	:	Substance
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name	:	Ammonium chloride
Index-No.	:	017-014-00-8
REACH Registration Number	:	no data available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Laboratory chemicals Industrial use
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:		
For further information, please contact:	:	SafetyDataSheet@Honeywell.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1-303-389-1414 (Medical)
Country based Poison	:	see chapter 15.1

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Control Center

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute toxicity Category 4 - Oral
H302 Harmful if swallowed.
Eye irritation Category 2
H319 Causes serious eye irritation.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :

Signal word	:	Warning	
Hazard statements	:	H302	Harmful if swallowed.
		H319	Causes serious eye irritation.
Precautionary statements	:	P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P308 + P313	IF exposed or concerned: Get medical advice/ attention.

2.3. Other hazards

Avoid dust formation.
Results of PBT and vPvB assessment, see chapter 12.5.

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SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
Ammonium chloride	12125-02-9 017-014-00-8 235-186-4	Acute Tox. 4; H302; Oral Eye Irrit. 2; H319	<= 100 %	

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:
First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.

Inhalation:
If inhaled, remove to fresh air. If symptoms persist, call a physician.

Skin contact:
After contact with skin, wash immediately with plenty of water. If symptoms persist, call a physician.

Eye contact:
Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Consult a physician.

Ingestion:
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. If victim is fully conscious, give a cupful of water. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

No data available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Extinguishing media which shall not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fire hazardous decomposition products may be produced such as:
Ammonia
Gaseous hydrogen chloride (HCl).

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment.
Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and materials for containment and cleaning up

Use mechanical handling equipment.
Pick for disposal in tightly closed containers
Avoid dust formation.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Exhaust ventilation at the object is necessary. Wear personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.

Hygiene measures:
Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday. When using do not eat or drink. Avoid contact with the skin and the eyes.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:
Store in original container. Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

no additional data available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Ammonium chloride	EH40 OES TWA	10 mg/m3 Fume.		
Ammonium chloride	EH40 OES STEL	20 mg/m3 Fume.		
Ammonium chloride	EH40 WEL STEL	20 mg/m3 Fume.		
Ammonium chloride	EH40 WEL TWA	10 mg/m3 Fume.		
Ammonium chloride	EH40 WEL	Fume.		Listed

TWA - Time weighted average
STEL - Short term exposure limit

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Ammonium chloride	Workers / Long-term systemic effects		44 mg/m3	Inhalation	
Ammonium chloride	Workers / Long-term systemic effects		129 mg/kg	Skin contact	
Ammonium chloride	Consumers / Long-term systemic		9,4 mg/m3	Inhalation	

	effects				
Ammonium chloride	Consumers / Long-term systemic effects		55,2 mg/kg	Skin contact	
Ammonium chloride	Consumers / Long-term systemic effects		55,2 mg/kg	Ingestion	

Component	Environmental compartment / Value	Remarks
Ammonium chloride	Fresh water: 0,25 mg/l	
Ammonium chloride	Marine water: 0,025 mg/l	
Ammonium chloride	Sewage treatment plant: 13,1 mg/l	
Ammonium chloride	Soil: 50,7 mg/kg	
Ammonium chloride	Fresh water sediment: 0,9 mg/kg	
Ammonium chloride	Marine sediment: 0,09 mg/kg	

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.
Do not breathe dust.

Personal protective equipment
Respiratory protection:
In the case of dust or aerosol formation use respirator with an approved filter.

Hand protection:
Glove material: Natural Latex
Break through time: > 480 min
Glove thickness: 0,6 mm
Lapren®706
Gloves must be inspected prior to use.

Replace when worn.
Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.
Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Safety goggles

Skin and body protection:
Protective suit

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	solid
Colour	:	colourless
Odour	:	odourless
molecular weight	:	53,49 g/mol
Melting point/range	:	338 °C Decomposition
Boiling point/boiling range	:	No data available
Flammability	:	The product is not flammable.

Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No decomposition if used as directed.
pH	:	4,6 - 6,0 at 20 °C
Viscosity, kinematic	:	No data available
Water solubility	:	372 g/l at 20 °C
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	1,536 g/cm3 at 20 °C
Relative vapour density	:	No data available

9.2 Other Information

Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Evaporation rate	:	No data available
Viscosity, dynamic	:	No data available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

No decomposition if used as directed.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Keep away from heat and sources of ignition.
Avoid dust formation.

10.5. Incompatible materials

Oxidizing agents
Strong acids and strong bases
Nitrites
Nitrates

10.6. Hazardous decomposition products

Ammonia
Hydrogen chloride gas

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:
LD50
Species: Rat
Value: 1.410 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity:

LD50
Species: Rat
Value: > 2.000 mg/kg

Acute inhalation toxicity:
No data available

Skin irritation:
Species: Rabbit
Result: non-irritant

Eye irritation:
Classification based on Annex VI of regulation 1272/2008/EC.

Respiratory or skin sensitisation:
Maximisation Test
Species: Guinea pig
Result: Not a skin sensitizer.

Carcinogenicity:
Note: Not classified due to data which are conclusive although insufficient for classification.

Germ cell mutagenicity:
Note: Not classified due to data which are conclusive although insufficient for classification.

Reproductive toxicity:
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
Irritating to mucous membranes

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
LC50
semi-static test
Species: Cyprinus carpio (Carp)
Value: 209 mg/l
Exposure time: 96 h

NOEC
flow-through test
Species: Pimephales promelas (fathead minnow)
Value: 11,8 mg/l
Exposure time: 28 d

Toxicity to aquatic plants:
EC50
Species: Diatoms
Value: 90,4 mg/l
Exposure time: 10 d

Toxicity to Microorganisms:
EC20
Species: activated sludge
Value: ca. 850 mg/l
Exposure time: 0,5 h
Method: OECD 209

Toxicity to aquatic invertebrates:
EC50
static test
Species: Daphnia magna (Water flea)
Value: 101 mg/l
Exposure time: 48 h

Chronic toxicity to aquatic invertebrates:
NOEC
semi-static test
Species: Daphnia magna (Water flea)
Value: 14,6 mg/l
Exposure time: 21 d

12.2. Persistence and degradability

Biodegradability:
The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

Should not be released into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods

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14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)

14.4 Packaging group

14.5 Environmental hazards
ADR/RID: no Marine pollutant: no

14.6 Special precautions for user
No data available

14.7 Maritime transport in bulk according to IMO instruments
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Basis	Value	Remarks
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052

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Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
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Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemicals Act (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

Ammonium chloride	:	H302	Harmful if swallowed.
		H319	Causes serious eye irritation.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level

vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

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